

PIKES PEAK
RADIO AMATEUR
ASSOCIATION
(PPRAA)

Activities/Meetings

- Ham Breakfast
Saturday, March 7th
8-9:30AM Susie's Westside
Cafe, 1686 South 21st
Street
Join us between 8:00-9:30
AM
All are warmly invited to
come on down and join us!
- PPRAA Board Mtg
Mon, March 9th
IHOP
- PPRAA general
membership meeting,
Wednesday, March 11th.
- 10 Meter/2 Meter net
Every Thursday 7:00 pm
28.290 MHz—USB
144.200 MHz-USB

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Ø-BEAT

Volume 65 Issue 02

February 2015

Raleigh Holcomb (N4HYF) - PPRAA President

At or about 1973 I was on Guam, Marianas Islands, USA. I had been a CB'er for a number of years when I was invited to a friend's house who was an amateur radio operator. Although he turned on his radio to the CW portion of the band and I didn't know what was being sent but I could distinguish between letters, words, and sentences. I was hooked.

After my introduction to amateur radio, I started lessons for the novice class license. I had no trouble with the required Morse code. By the time the other class members were at 5 words per minute (wpm), I was above 13 wpm. I obtained my call (WG6JEZ) after passing the exam.

Code was never a problem. Even on my first novice contact I was a bucket mouth. During that first contact I didn't turn control over to the other station for at least 30 minutes. With amateur radio,

I had really found the life-long hobby I had desired.

After two additional years in Guam I was transferred to San Diego Naval Hospital. While in San Diego I found "From 5 Watts to 1000 Watts" at the local Radio Shack. "From 5 Watts to 1,000 Watts" was a programmed course intended to advance the student from CB to HAM radio. By the time I passed the General test my code speed was well above 20 wpm far exceeding the required 13 wpm. After obtaining the general class ticket and having other modes to operate, I always started a session with at least 30 minutes of CW.

That is where I sat from that day to this. I have made several starts to amateur extra, but never have completed the course. I am about to start again with Mike Anderson (WV7T).

PPRAA Field Day—2015

ARRL Field Day (FD) is June 27-28, 2015.
The location for the PPRAA Field Day activities will be at the Ellicott fire station.

72 N. Ellicott Hwy
Ellicott, CO
(Just north of the High School)

38.832656, -104.382284
(N43° 38'39", W116° 14' 29")

The location is an EOC allowing us to immediately get the site setup including antenna, radios, and computers.

By operating at an established EOC, stations may utilize equipment and antennas that are temporarily or permanently installed at the EOC site. Class F stations are eligible for a free VHF station and a 2F station is also eligible for a GOTA station.

The goal is to have a good showing in terms of contacts made while keeping the casual friendly setting. Expect the normal Saturday evening barbecue and Sunday breakfast.

The editor would like to get a good number of CW operators lined up so we can keep a CW station 100% utilized. Please write to zerobeat@ppraa.org if you would like to coordinate the CW station.

A station coordinator is a person that is basically responsible for a single operating position. The person does not need to supply their own equipment but would be responsible for having equipment at the site.

Although not truly required, stations should be capable of computer control for computer logging reasons.

From now until Field Day expect to see requests for help with getting our 2 primary beam antennas cleaned up, getting the IP network in place, and other activities in preparation.



PPRAA special event operation.

PPRAA Officers and Board of Directors

PPRAA Board of Directors consists of four elected officers, seven board members, as well the past president (time limit dependent). The Ø-Beat editor is a board appointed position and is also a member of the board.

Officers include:

- ⇒ President
- ⇒ Vice-President
- ⇒ Secretary
- ⇒ Treasurer

To send board member's email, browse to the officers section of our website: <http://ppraa.org/about-ppraa/officers>

President	Raleigh Holcomb	N4HYF
Vide-President	Jim Bishop	KDØKQL
Secretary	Diana Nordstrom	KCØNPP
Treasurer	Pam Scott	WØPRS
Past President	Michael Derbort	KCØELG
Board Member	Dan Martin	KDØSMP
Board Member	Glenn Brodt	N3ULW
Board Member	Jim Rader	KDØNQM
Board Member	Charlie Coyner	KD6CBC
Board Member	Jim Harris	WØEM
Board Member	Virgil Yost	NØXRS
Board Member	Frank Roger	KB3PDT
Ø-Beat Editor	Dan Scott	WØRO

Online Resources

PPRAA Website

<http://ppraa.org>

The PPRAA website is the cornerstone for club related information, events, and technical information.

In addition you can register, pay dues, and submit donations. Donations to the PPRAA college scholarship fund are managed by FAR Scholarship Committee

Facebook / Google+

Follow activities as they unfold, or get reminders of upcoming events.

Links to both Facebook and Google+ social media sites can be found on the PPRAA.org.

Or from each social media site search on: Pikes Peak Radio Amateur Association

PPRAA Forums

The PPRAA forums are intended to allow users to exchange of ideas, ask and answer amateur radio related questions, and plan/discuss upcoming events.

This is a fantastic, but underutilized, tool. Check it out and register at: PPRAA.Forumotion.net

Monthly Activities

Membership Meeting

Held the 2nd Wednesday of the month starting at 7:00.

IHOP
5749 Stetson Hills Blvd
(just west of Powers Blvd)

NOTE: Many show up at 6 pm for kibitzing and grub.

Board Meeting

IHOP
5749 Stetson Hills Blvd

6:30pm—8:00pm
On the Monday preceding the membership meeting.

Board Meetings are open to all members.

Ham Breakfast

Location changes monthly: Check ppraa.org or table of contents, page I for the breakfast meeting location.

10 Meter/2 Meter Net

Every Thursday at 7pm
Starts on 28.390 USB then transitions to 2 Meter SSB at 144.200 USB.

Meeting Presentation Topics

January Meeting

Jed Griffin: "A revolutionary demodulation to eliminate down conversions. Allowing more efficient spectrum utilization. Can enhance all RF communications everywhere, including Ham Radio."

February Meeting

Jim WØEM demonstrating the operation of our remote station.

March Meeting

TBD

AmazonSmile—Shop and support PPRAA

Amazon will donate 0.5% of the price of your eligible AmazonSmile purchases to Pikes Peak Radio Amateur Association whenever you shop on AmazonSmile.

AmazonSmile is the same Amazon you know. Same

products, same prices, same service.

Support PPRAA by starting your shopping at smile.amazon.com. To shop at AmazonSmile simply go to smile.amazon.com from the web browser on your computer or mobile device. You may also want to add a

bookmark to AmazonSmile to make it even easier to return and start your shopping at AmazonSmile.

After login, use Pikes Peak Radio Amateur Association for the non-profit to support.

PPRAA Remote Station—Tutorial introduction

Jim made an excellent presentation related to the trial of the remote station. I decided to repost this article.

1. Introduction

1. Welcome to the tutorial for users of the PPRAA's remote HF Station. It contains information and references to information you need to know to operate the station.

2. You are responsible to operate in accordance with your license privileges and the rules established in Part 97 by the FCC. If you do not understand your privileges and FCC rules do not attempt to operate the station. Operating this station does not grant you any additional privileges beyond those already granted by the FCC.

3. Failure to operate in accordance with the above and station procedures and rules as

established herein will result in denial of operating privileges.

4. Due to equipment limitations frequencies are limited on 80,40 and 10 meters. They are limited via software and the limitations cannot be overcome by the client (user) operator. All other HF frequencies are available.

5. The FCC requires a three (3) minute time-out timer similar to a VHF/UHF repeater. That is software controlled at the remote station. A countdown timer will display in the S-meter area of the client software.

6. Revision control is by date displayed above. There is no approval process for this tutorial. Constructive feedback will be reviewed in good faith.

7. Once installed, the client software may give you access to nearly 100 remote station

around the world including the PPRAA's remote station. Access to each remote station is granted by each remote station's administrator after reviewing your access request and license.

8. The client software allows many individuals to listen to the receiver. This is no different from listening on any frequency from your home station.

9. Transmission is coordinated among approved and logged in users.

10. The PPRAA remote station will use a "club" feature in the remote station software to limit users to club members only. It may be opened to others at a later date.

11. The client software will allow operation using any mode other than keyed CW which may be operated with the purchase of a separate hardware key interface. CW

may be sent keyboard or software as audio tones.

12. Audio (voice) and CAT commands are currently sent by the client software. Once the station is relocated after initial testing, audio may need to be sent via Skype depending on router capabilities at the remote station location.

13. The club's Kenwood TS-450 transceiver has only about 12 CAT commands available. Thus all features on the radio cannot be remotely accessed. This is a limitation of the radio and not the client software.

14. When remote station testing is finished the licensed PPRAA membership will be provided with information to access the client software and the remote station. This is expected to be about mid-January 2015.

Jim WØEM



PPRAA Board Meeting Minutes—12 January 2015

Call To Order - 5:34pm on
Wednesday, 14 Jan.

Approval of the December Meeting
Minutes - Jim moved and Charlie
seconds to approve the minutes as

published on the website and in the Zero Beat, board
approves.

Committee reports

Treasurer's report - \$13,021.41

Budget Approval - Jim H. motions to approve the budget
as amended, Jim B. seconds. board approves.

Antenna Report - Current revision sent out via email,
current plan is to put a vertical in the center of the plot. 40,
80, and 160 will be covered by wire antennas. Going to cost
\$1500-2000 if we move from that location.

Building report - no change

Electrical committee - no change

Lease Agreement (Ed KCØTBE) - Was intending on
signing the lease this week, but with the weather, things have
been delayed. Should be signed soon, and will be presented
later. Charlie motions to table the discussion on the Fire
Department property, Diana seconds. Board approved.

Megafest 2015 - Date and location has been confirmed:
July 11th at Lewis Palmer High School

Field Day committee - depending on station location

Asset Committee - nothing to report yet

Zero Beat - Still need articles, had nice responses this past
time. Submit articles to zero-beat@ppraa.org

Tech Ed (Mike, WV7T) - not present

Remote Station Report - In testing since 12 Dec, Dan M and
Raleigh have been helping. Three weeks ago, opened to the
board, last week opened to the club. Currently hooked up
during the meeting. Tutorial will be the program for
February. There are two levels of privileges, club and
transmit. Only 4-5 have club, 3 only have transmit. Raleigh
reports pile ups just for being a remote station. Contact Jim
H. for the tutorial or sign into the club website. If it is
moved to the club station location, add \$600-700 for
additional equipment. Costs \$15/month to run.

PPRAA Activities

Family activity - Dan M. motions to hold family events
quarterly, Jim R. seconds, board approves
Special events alternate months - Starting in March

10m Net - every Thurs at 7pm, starting on 28.390

By-Law Review

To be changed as proposed: Article III - Section 9. Appointed
Board Members. The Zero Beat editor and the Webmaster of the
association's website shall be appointed positions and shall serve as
long as those persons remain the Zero Beat editor and the
Webmaster. Both the editor of Zero Beat and the Webmaster
shall also be full voting members of the Board of Directors. The
Zero Beat editor and Webmaster must be full members in good
standing.

Webmaster on the board - Jim H. motions to edit the by-laws to
include the webmaster in the clauses with the zero-beat editor,
Charlie seconds. Dan M. registers his dissent. 10 approved. 2 nays.
The board approves to present the change to the club.

Club Meeting Programs

Jan 14th – Jed Griffin

Feb 11th – Jim Harris - demonstration on the remote station

Business Conducted Via Garden of the Gods Amateur Radio Club

November 27th – Jim H. moved to buy one copy of Windows 7.
Seconded by Dan M. Board approved.

Solar Panels - Should the cement be removed? Board says its not
a board discussion, should be considered

Around the table

Virgil - Looking for someplace to dump the concrete from the
poles, so we don't have to move those.

Diana - COQP -should changes be approved by the board? No.

Dan - Chris/MEREO has requested VE session, Dan requests time
during the general meeting to ask for VEs. 2 sessions: March 21th
in Simla, May 16th in Colorado Springs.

Frank - wants to be involved in HAM instruction for General
testing. Dan S. will talk with others involved later.

Next Board Meeting: February 9th, Location: IHOP

Adjourn - Dan S. motions to adjourn, Jim B. seconds, 6:47pm.

PPRAA General Meeting Minutes—12 January 2015

Call To Order - 19:02

Introductions

Silent Keys - none to report

Approval of the November Meeting Minutes - Jim B. moves to approve the minutes as published in the Zero Beat and on the website. Charlie seconds. Club approves.

Committee reports

Treasurer's report - \$13,021.41

Antenna Report - Plan has been revised for the new location, has been submitted to the board for discussion.

Building report - no changes to report

Electrical committee - not present

Lease Agreement (Ed KCØTBE) - Waiting to hear back if it has been approved. The Fire Department meeting is tonight. *Megafest 2015* - Location and date have been approved. July 11th at Lewis Palmer High School. Prizes were presented during the meeting.

Field Day committee - nothing to report

Asset Committee - nothing to report

Zero Beat - Need articles! Had three people send stuff, thank you!

Tech Ed (Mike, WV7T) - not present

Remote Station Report - Station went on the air on the 12th of December, Dan M. and Raleigh have helped test the process. Was opened to the board three weeks ago, and the club in general last week. Only 4-5 people have applied for club access. Contact Jim H. for access to the tutorial and the radio. Please read the tutorial all the way through! There is a 1/3 to a 1/4 second latency in the system. Cannot get 10m because of the SWR on the current antenna.

By-law Change -To be changed as proposed:

Article III - Section 9. Appointed Board Members. The Zero Beat editor and the Webmaster of the association's website shall be appointed positions and shall serve as long as those persons remain the Zero Beat editor and the Webmaster. Both the editor of Zero Beat and the Webmaster shall also be full voting members of the Board of Directors. The Zero Beat editor and Webmaster must be full members in good standing.

Special VE Session - Looking for VEs for MEREO classes. Dates are for March 21st in Simla and May 16th at 21c Library. Please contact Dan M. for more information or to volunteer.

Licensing Classes - Gathering information for holding and hosting classes for General Class. Any information, please contact Frank for more information.

ARES - Nothing up currently, calendar should be updating soon. Skywarn training coming up! John Bloodgood will pass the information as it comes. Contact him for information about Bill PRB-I. Information on joining ARES is available on the website.

10m Net - Every Thurs at 7pm, on 28.390 USB. Last week there were 12 people.

Next General Meeting: February 11th, Location: IHOP

Adjourn - 7:45pm

PPFMA—Yaesu DR-I



Pikes Peak FM Association (PPFMA) has been testing the YAESU DR-I for the last year.

Unlike many other repeaters, the DR-I handles conventional FM and C4FM digital transmission. The PPFMA is ordering the Yaesu DR-IX which is the upgraded version from the beta DR-I which PPFMA currently has on 146.265-. The DR-IX has many features added which the beta version did not have, most notable is its compatibility Yaesu WIRES™.

Yaesu WIRES (Wide-Coverage Internet Repeater Enhancement System) is a comprehensive and easy-to-use system for linking repeaters and/or home station together, using Internet voice technology. Although the PPFMA system does not currently have WIRES, it is seriously being looked and hopefully this exciting technology will be available on the system this year.

The DR-IX is a digital/conventional FM dual mode repeater that covers the VHF and UHF amateur radio bands. The digital mode is 12.5 kHz C4FM and is not compatible to either ICOM's DSTAR or Motorola's MotoTRBO. The repeater is replacing an older conventional FM repeater and, by default is an FM repeater. If using a Fusion mobile or HE in digital mode the repeater will dynamically convert to C4FM digital. The Fusion radio have the ability to follow the mode of the repeater, so if you have a Fusion radio and are operating FM when someone announced themselves using C4FM, the repeater and the other Fusion radios set to automatic will automatically change modes to FM. Of course if you are using C4FM and FM is used on the repeater HT or Mobile will automatically switch to FM.

System Fusion Key Features:

- ◆ AMS (Automatic Mode Select) function automatically recognizes the signal as C4FM or conventional FM
- ◆ Better BER (Bit Error Rate) characteristics of C4FM provides Superior Audio Quality and Crisp Clear Voice
- ◆ Better BER characteristics of C4FM provides better reception while moving and challenging weak signal
- ◆ Full 12.5 kHz bandwidth system provides high-speed data communication
- ◆ Snapshot Function allows you to enjoy image data with time and GPS information
- ◆ Digital Group Monitor Function
- ◆ Smart Navigation Function

If you have the Yaesu TFM-400DR dual-band transceiver or the Yaesu FT1DR HT and looking to play with its digital side, give the PPFMA repeater on 145.265 a try.



Remote Station—Questions Answered

I've had some questions about ID'ing on the club's remote station.

- You should ID the same as you learned when you studied for your license.

⇒ If the number in your license is a zero then just give your call sign. You may add "remote" after your call but it isn't necessary.

⇒ If the number in your call is other than zero, you should follow your call sign with "slash zero" (/0) regardless of where you are operating from.

- If you are going to transmit on a remote station outside the USA you must follow the agreement, if any, that is established between the FCC and the host country.

⇒ There are a variety of agreements so summarizing them would be difficult in this space.

⇒ See <http://www.arrl.org/international-operating> for information on individual countries.

⇒ The agreements are for transmitting only. You may listen on a remote station regardless of its location in the USA or anywhere in the world.

- Only transmitting is regulated and licensed. For USA stations remember to ID

every ten minutes and at the end of each QSO.

- Remember your license is to ensure your station meets FCC requirements and serves two purposes.

⇒ It authorizes you to operate per the privileges and limitations of your license.

⇒ It is the station license for whatever station you establish.

- For a remote station, your license authorizes you to operate per the privileges and limitations of your license.

⇒ As you have no direct control of the equipment installed at the remote station your station license does not apply to the remote station.

⇒ The FCC requires the license of the person who established and controls the station to be posted at the physical location of the station. As such the remote station administrator's license is posted at the station as the station/control license. Should someone else assume those responsibilities that person would post their license at the physical location of the remote station.

- Remember you as the operator are responsible for your own activities on the

station as you would on any station you use. The remote station administrator is responsible to assure the equipment meets FCC requirements; which it does as the transceiver is type accepted by the FCC.

- The FCC requires a remotely operated station to have a three minute transmit time-out timer to cause the transmitter to cease transmitting should the transmitter become "stuck" in transmit. This is the same requirement imposed on all repeaters.

- The function on the remote station is controlled by the station's server software.

⇒ A countdown timer is immediately above the "S" meter on the client (user) software radio display.

⇒ When you use the transmitter note the counter decrementing from 180 seconds when transmitting.

The above will be included in an upcoming revision to the station tutorial. Enjoy this club provided membership benefit.

Jim H., W0EM

Pikes Peak Radio Amateur Association, Inc.



PPRAA HAM RADIO MEGAFEST

Saturday, July 11th, 2015

8 AM to 1 PM Lewis-Palmer High School

1300 Higby Rd., Monument, CO 80132; East of I-25, Exit 158 or 161

Vendor Setup at 6 AM — Raffle Ticket Sales Open at 7:30 AM

Talk In: 146.970 MHz (-) 100 Hz Tone

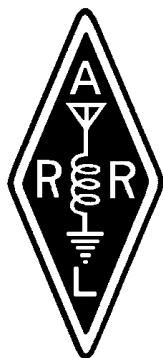
Great Raffle Prizes!

One Raffle Ticket Included with Admission

Additional Tickets: \$1 Each, 6 for \$5, 15 for \$10, 40 for \$20

Drawing at Noon, July 11th, 2015.

Raffle prize winners need not be present to win.



6-foot Table Rental

Early Bird (before 20 April): \$12

In Advance (20 April – 5 July): \$15

Last Minute - after 5 July: \$17

Rental Does NOT Include Admission - \$5.00 per person

One chair provided with each table

Table rental form is available online

ppraa.org/megafest





Pikes Peak Radio Amateur Association, Inc.

Megafest – July 11th

RAFFLE PRIZES

Yaesu FT-991 value \$1,670

ICOM ID-5100A Dual Band D-Star – value \$725

Donated by Cheyenne Mountain Repeater Group
Programming software donated by RT Systems

Yaesu FT-7900R – value \$324

Programming software donated by RT Systems

Yaesu FT-60R – value \$150

Programming software donated by RT Systems

Rig Expert AA-54 antenna analyzer – value \$350

Butternut HF6XV – antenna – value \$390

Tickets:

\$1	1 ticket
\$5	6 tickets
\$10	15 tickets
\$20	40 tickets

You don't have to be present to win!



VE Testing & Education—Colorado Springs (PPRAA)

Pikes Peak Radio Amateur Association (PPRAA)

When:
Feb, Apr, Jun, Aug, Oct, Dec
2nd Saturday at 9 AM

Location:
Colorado Technical University (CTU)
4435 North Chestnut
Colorado Springs, CO 80907

Directions available at:
ppraa.org/ve-testing
or contact:
Dan Martin
VE@PPRAA.org



Mike Anderson, WV7T does personal and small group training for all license classes.

Mike also does Morse code training.

Mike can be reached at:
719-229-8610
vv7t@aol.com

VE Testing Woodland Park (MARC)

MOUNTAIN AMATEUR RADIO CLUB (MARC)

When:
Jan, Mar, May, Jul, Sep, Nov
1st Saturday at 10 AM

Location:
Woodland Park
Woodland Park Library-
Community Meeting RM
218 East Midland Avenue

Directions:
<http://www.nx0g.org/ve.html>
or contact
Wes Wilson (KØHBZ)
k0hbz@arrrl.net
Call (719) 687-8758



Applicants will need the following items:

1. A valid PHOTO ID, driver's license preferred (if you do not have a valid photo ID, please call for alternative identification requirements).
2. Your FRN or SOCIAL SECURITY NUMBER (now required – this includes children).
3. Your CURRENT ORIGINAL amateur radio license (if any) and a PHOTOCOPY for the VE Team to keep.
4. The CURRENT ORIGINAL CSEs you have and a PHOTOCOPY for the VE Team to keep.
5. Cash, Check or Money Order for \$15 (standard ARRL VE Fee). Checks and money orders should be made out to ARRL. This covers all exams you wish to take at this VE session.

NOTE: PPRAA and MARC VE Team policy, as with many VE

Teams, is to not allow same day retests on failed exams.

PPRAA – Colorado Springs testing only:

Anyone passing their Technician Class examination at a PPRAA test session will receive a free year's membership to the Pikes Peak Radio Amateur Association

How High Should an Antenna be? —February 2015

This question is asked quite frequently. Actually what many want to know is, how low to mount the antenna to where it will still work?

There is much to learn about HF propagation. However, a few basics can help to achieve good results.

On VHF and higher you can go by the rule, "the higher the better". This is a ground wave transmission. You can liken it to line of sight. If you were to raise yourself above ground, you would see a farther distance to the horizon. So will the ground wave. On VHF, this will increase the performance in distance. Actually on VHF in particular, it is more forgiving and will bend with the terrain somewhat. This is a reason for using VHF for police and fire in rural areas. We are referring to distances of 10 to 15 miles car to car (depending on power) and as much as 100 miles through a repeater at a very high altitude.

What happens at the HF frequencies? A lot!

HF is normally used for much longer distances than the VHF ground wave. Therefore, where do you start and what factors affect it?

There is one thing to keep in mind. HF radiation rarely reflects. Due to the low frequency, there is insufficient

inductance in objects to make it reflect. However, there are other factors that affect HF.

We can start with what you are walking on. The soil conditions of the earth varies per location. Conductivity and various minerals in the soil affect HF communications.

Depending on this chemistry will determine how much HF radiation will be absorbed and not leave the antenna site. What do you look for?

If the antenna is very low to the ground, you can observe the performance. Tuning of the antenna is one factor. Is the antenna reacting peculiar? Minimum SWR a bit too high? If measured, is the impedance of the antenna very low. Possibly receiving performance has deteriorated severely.

Another check is measuring SWR at low power as compared to high power. If at low power the SWR is closer to normal and high power it increases a lot, then a nearby object is most likely having an affect. Like the earth. Radiation can be absorbed and due to a transformer affect radiate some back into the antenna or possibly the feedline laying on it. This will increase the SWR and can make the antenna very narrow in bandwidth.

If this is the case, Raising the antenna even a few feet will make a change toward normal functioning of the antenna.

We can usually use the same rule as VHF, "the higher the better". However, when you are limited in what you can do, you will want to know the minimum you can get away with. HF will start performing reasonably well if you can get sufficient height from your ground absorption factor. On the average, 20 feet will do it. Some areas are more forgiving and some areas are worse. You will get indications of it by taking note of the readings mentioned.

Next article will continue on this subject.

73,

Ralph WD0EJA

FEB. 2015

**FEB. 2015BILAL
COMPANY**

137 MANCHESTER DR.
FLORISSANT, CO. 80816

PH/FX: 719/687-0650

wd0eja@isotronantennas.com



**PIKES PEAK RADIO
AMATEUR
ASSOCIATION**

Send membership application to:

Pikes Peak Radio Amateur
Association, Inc.
P.O. Box 16521
Colorado Springs, CO 80935

General Questions:
ppraa@ppraa.org

ØBeat:
zerobeat@ppraa.org



ppraa.org

Get Radio Active, get on the air!

Membership Application:

Date: ____ / ____ / ____ New Membership: Yes / No

Name: _____

Address: _____

City/State/Zip: _____

Call: _____ Class: ____ Phone # (____) _____

Email: _____

Are you a ARRL member: Yes / No

Additional Family Members:

Name1: _____ Call: _____ Class: ____ ARRL Member: Yes / No

Name2: _____ Call: _____ Class: ____ ARRL Member: Yes / No

Name3: _____ Call: _____ Class: ____ ARRL Member: Yes / No

____ \$15.00 Full Member

____ \$10.00 Full Member over 65

____ \$18.00 Family Membership

____ \$12.00 Family Membership over 65

\$____ Membership Amount

\$____ Scholarship Fund Donation

\$____ PPRAA General Fund Donation

\$____ Total

2015 Scholarship Fund

There are multiple ways to donate to the PPRAA

Scholarship Fund.

1. Use the form found on this page and send it, along with a check to PPRAA.
2. On the PPRAA web site you can donate via PayPal
3. At club meetings
4. Directly to the our scholarship fund.

Make checks to:
PPRAA Scholarship

The scholarship fund can be reached at:

FAR Scholarship Committee
P.O. Box 911
Columbia, MD 21044

Ø- Beat Banner

Photo by Pam—WØPRS.

The theme of the banner is Pikes Peak. If you would like to submit pictures for the Ø-Beat banner, please send them to:
zerobeat@ppraa.org

Please Include "[Ø-beat]" as part of the subject line.